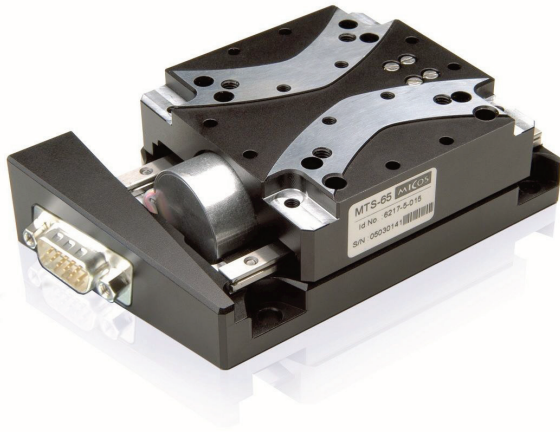


Miniature Linear Stage

Robust Design for Industrial Use



MTS-65

- Travel ranges to 52 mm (2")
- Repeatability to 0.1 μm
- Load capacity to 1 kg

Precision-class linear stage

Very good travel accuracy and load capacity due to recirculating ball bearing guides. Precision ball screw. Stress-relieved aluminum base for highest stability. 2-phase stepper motor for high torque even at low velocities and high resolution. Noncontact optical limit switches.

Recirculating ball bearings

When carefully assembled, recirculating ball bearings are distinguished by a beneficial combination of high load capacity, lifetime, maintenance-free operation, and guiding accuracy. The moving part of the stages is supported by four preloaded linear ball bearing units which run on two guide rails. Each bearing unit is made up of two independent rows of circulating ball bearings.

Application fields

Autofocus. Research. Biotechnology. Laser marking. Automation.

Specifications

	621792x03	Unit	Tolerance
Active axes	X		

Motion and positioning	621792x03	Unit	Tolerance
Travel range	13 / 26 / 52	mm	
Design resolution	5 (full step)	μm	
Minimum incremental motion	0.1	μm	Typ.
Unidirectional repeatability	0.2	μm	Typ.
Bidirectional repeatability	±5.0	μm	Typ.
Straightness	±1.0 / ±2.0 / ±3.0	μm	Typ.
Flatness	±1.0 / ±2.0 / ±3.0	μm	Typ.
Pitch	±40 / ±60 / ±80	μrad	Typ.
Yaw	±40	μrad	Typ.
Max. velocity	8	mm/s	Max.

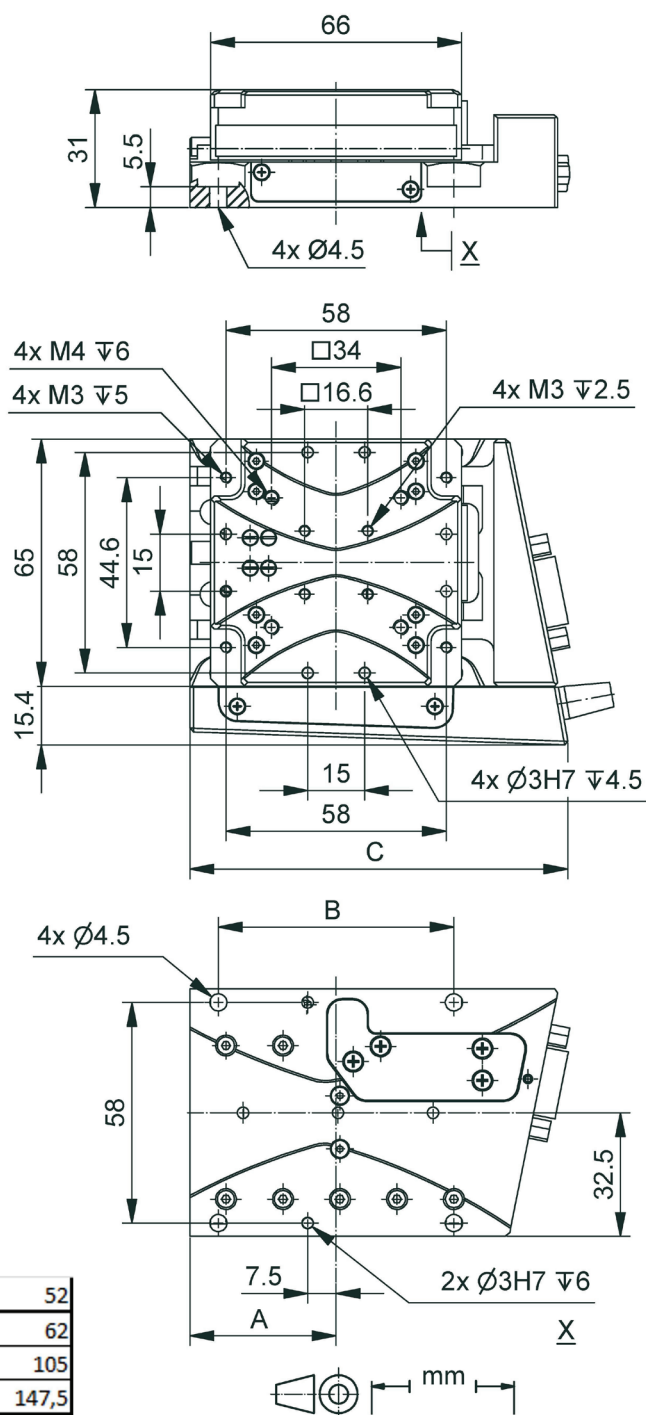
Mechanical properties	621792x03	Unit	Tolerance
Drive screw type	Ball screw		
Drive screw pitch	1	mm	
Load capacity	10	N	Max.
Push/pull force	3	N	Max.
Holding force, power off	3	N	Typ.
Permissible lateral force	10	N	Max.
Permissible torque M _x in X	0.4	Nm	Max.
Permissible torque M _y in Y	0.6	Nm	Max.
Permissible torque M _z in Z	0.4	Nm	Max.

Drive properties	621792x03	Unit	Tolerance
Motor type	2-phase stepper motor		
Operating voltage, nominal	24	V	Nom.
Operating voltage, max.	48	V	Max.
Step resolution	200	Full steps/rev.	
Limit switches	Forked photoelectric sensor, N/C contact, 5V, NPN		

Miscellaneous	621792x03	Unit	Tolerance
Operating temperature range	5 to 40	°C	
Material	Anodized aluminum		
Mass	0.4 / 0.6 / 0.8	kg	±5 %
Connector	HD D-sub 15 (m)		
Recommended controllers	C-663.12 (single axis) SMC Hydra (double axis) C-885 with C-663.12C885 (up to 20 axes) ACS modular controller		

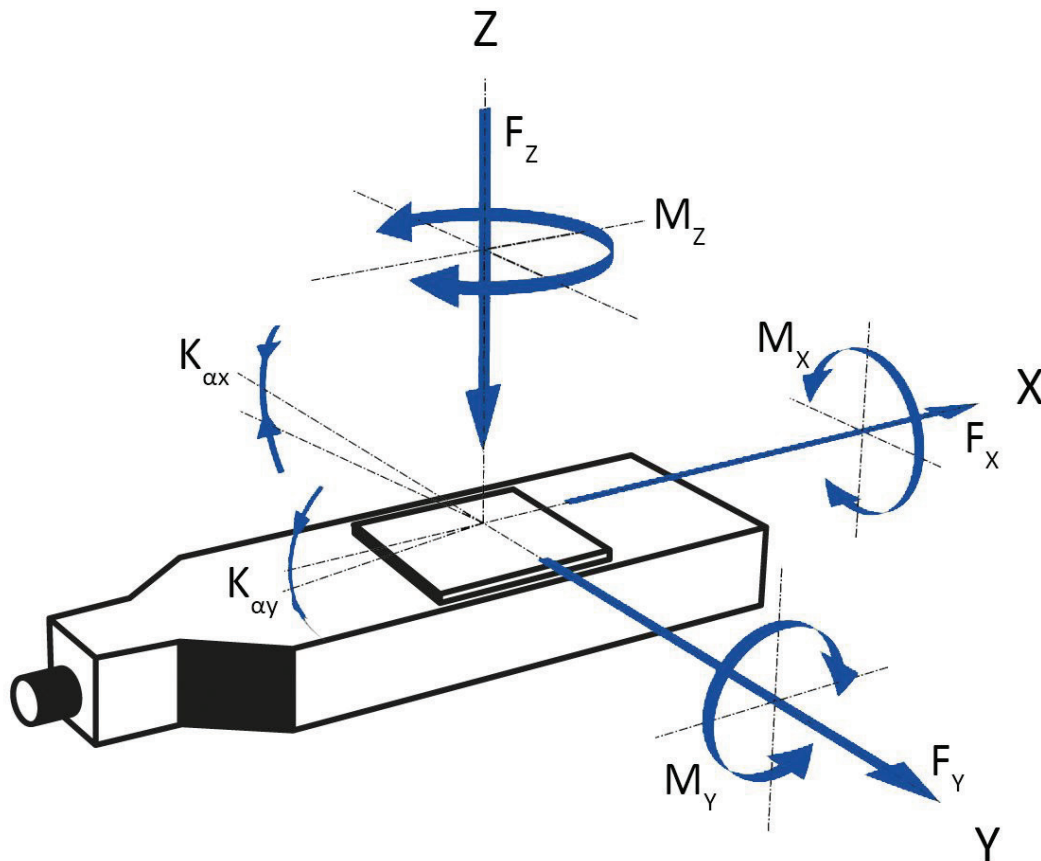
Connecting cables for motor and sensor are not in the scope of delivery and must be ordered separately.
Ask about customized versions.

Drawings / Images



Stellweg / mm	13	26	52
A / mm	38,5	45	62
B / mm	62	75	105
C / mm	99,5	112,5	147,5

MTS-65, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.



Direction of the axes and torques for linear stages

Ordering Information

621792103

MTS-65 Miniature linear stage, 65 mm width, 2-phase stepper motor, 13 mm travel range, optical limit switches

621792203

MTS-65 Miniature linear stage, 65 mm width, 2-phase stepper motor, 26 mm travel range, optical limit switches

621792303

MTS-65 Miniature linear stage, 65 mm width, 2-phase stepper motor, 52 mm travel range, optical limit switches